Results of Testing

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
4-Nitroaniline	100-01-6	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	intraperitoneal injection, 2x, 24 hours apart	0, 80, 400, 800 mg/kg/day	5 to 6/sex	No evidence of clastogenicity was found in any treatment group.	54 FR 42034; 10/13/89 OTS0532109
4-Chloroaniline	106-47-8	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	oral (gavage), single dose	0, 50, 100, 200 mg/kg body weight	5 male; 5 female	The incidence of micronucleated polychromatic erythrocytes in the test animals treated with 4-chloroaniline were within normal range. The number of normochromatic erythrocytes containing micronuclei was not increased. The ratio of polychromatic/normo-chromatic erythrocytes in both male and female test animals remained unaffected. Results indicated that the test material was not mutagenic.	53 FR 45385; 11/9/88 OTS0519119
Aniline	62-53-3	EEATOX Acute aquatic invertebrate toxicity	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Gammarus fasciatus* (amphipod)	flow-through, 96 hours	0.18, 0.38, 0.70, 1.4, 2.7 mg/L (measured)	20 (10/rep-licate)	Exposure of the test animals to the test material (aniline) resulted in a 96-hour LC_{50} of 2.3 mg/L (1.9 to 3.1 mg/L). The no-observed-effect concentration (NOEC) based on survival was 1.4 mg/L.	54 FR 25167; 6/13/89 OTS0519116
Aniline	62-53-3	EECTOX Chronic aquatic toxicity - crustacean	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Daphnia magna*	flow-through, 21 days	0.006-0.040 (measured)	20 (10/rep-licate)	No effects were noted at 0.016 mg/L. At 0.027 mg/L and higher, reproduction was significantly decreased as compared to controls. The maximum allowable toxicant concentration (MATC) was 0.021 mg/L.	54 FR 33772; 8/16/89 OTS0532105
Aniline	62-53-3	EECTOX Chronic aquatic toxicity - crustacean	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Daphnia magna*	flow-through, 21 days	0.006-0.040 mg/L	20 (10/rep-licate)	Decreased reproduction occurred at 0.027 mg/L and higher. No effects were noted at 0.016 mg/L. The MATC was 0.021 mg/L, measured concentration.	54 FR 33773; 8/16/89 OTS0532105
Aniline	62-53-3	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	intraperitoneal injection, 2x, 24 hours apart	0, 30, 100, 300 mg/kg/day	3/sex	Increased incidence of micronucleated polychromatic erythrocytes were seen in the high dose groups for both sexes.	54 FR 33773; 8/16/89 OTS0532103
2-Nitroaniline	88-74-4	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	intraperitoneal injection, 2x, 24 hours apart	0, 50, 250, 500 mg/kg/day	5 to 6/sex	No evidence of clastogenicity was noted in any dose group.	54 FR 42034; 10/13/89 OTS0532108
2-Chloroaniline	95-51-2	EEATOX Acute fish toxicity	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	Rainbow trout	flow-through, 96 hours	0.30, 0.58, 1.1, 2.0, 4.3 mg/L (measured)	20 (10/rep-licate)	The test material had an LC_{50} value (and a 95% confidence limit) of 1.0 mg/L (0.82 to 1.4 mg/L). Altered body coloration and erratic swimming were noted.	54 FR 25167; 6/13/89 OTS0519118
2-Chloroaniline	95-51-2	EEATOX Acute invertebrate toxicity	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Gammarus fasciatus* (amphipod)	flow-through, 96 hours	0, 0.72, 1.2, 2.0, 3.8, 8.2 mg/L	Not specified	Exposure to the test material resulted in a 96-hour LC_{50} value of 5.4 mg/L (2.9 to 0.62 mg/L). The no-observed-effect concentration based on survival was 3.8 mg/L. Test animals exposed to 8.2 mg/L exhibited lethargy and immobilization.	54 FR 25167; 6/13/89 OTS0519118

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
2-Chloroaniline	95-51-2	EECLIF Fish early life stage test	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	rainbow trout	flow-through, 105 days	0.0037-1.4 mg/L	60/concen-tration (30/ replicate)	The NOEC was 0.0037 mg/L, and the lowest effect concentration was 0.012 mg/L (growth in length). The MATC was 0.0067 mg/L.	54 FR 33772; 8/16/89 OTS0532104
2-Chloroaniline	95-51-2	EECTOX Chronic aquatic toxicity - crustacean	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Daphnia magna*	static, 21 days	0.013-0.19 mg/L	Not specified	Survival was decreased at 0.19 mg/L, and at 0.046 mg/L and higher, decreased total young produced and offspring per surviving adult was noted.	54 FR 33773; 8/16/89 OTS0532104
2-Chloroaniline	95-51-2	EECTOX Chronic aquatic toxicity - crustacean	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Daphnia magna*	flow-through, 21 days	0.013-0.19 mg/L (measured)	10 (10/rep-licate)	The no-effect level was 0.025 mg/L. At 0.19 mg/L, survival was significantly decreased over controls, and at 0.046 mg/L and higher reproduction was decreased. The MATC was 0.025 mg/L.	54 FR 33772; 8/16/89 OTS0532104
2-Chloroaniline	95-51-2	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	intraperitoneal injection, 2x, 24 hours apart	0, 20, 70, 200 mg/kg/day	4 or 5/sex	No evidence of increased micronucleated polychromatic erythrocytes were seen at any test level.	54 FR 39806; 9/28/89 OTS0532107
3,4-Dichloroaniline	95-76-1	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	intraperitoneal injection, 2x, 24 hours apart	0, 20, 70, 200 mg/kg/day	5/sex	No evidence of clastogenicity was found in any treatment group.	54 FR 43482; 10/25/89 OTS0532110
2,4-Dinitroaniline	97-02-9	HEGTOXCHRM Mammalian bone marrow micronucleus assay	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	mice	oral (gavage), single dose	0, 37.5, 75, 150 mg/kg body weight	5/sex	Test animals treated with 2,4-dinitroaniline had an incidence of micronucleated polychromatic erythrocytes within normal range. The ratio of polychromatic normochromatic erythrocytes in both male and female test animals remained unaffected. Results indicated that the test material was not mutagenic.	53 FR 45385; 11/9/88 OTS0519120
2,6-Dichloro-4-nitroaniline	99-30-9	EEATOX Algae acute toxicity	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Selenastrum capricornutum* (algae)	static , 96 hours	0.9, 1.3, 1.9, 2.8, 4.2 mg/L (measured)	Not applicable	Exposure to the test material (2,6-dichloro-4-nitroaniline) resulted in a 96-hour EC_{50} value of 2.6 mg/L. The no-observed-effect concentration was 0.9 mg/L.	54 FR 25167; 6/13/89 OTS0519117
2,6-Dichloro-4-nitroaniline	99-30-9	EEATOX Acute invertebrate toxicity	Non-TSCA Protocol/Guideline (see docket# OPTS-42054B)	*Daphnia magna*	flow-through, 48 hours	0.86-5.0 mg/L (nominal)	20 (10/repli-cate)	Exposure to 2,6-dichloro-4-nitroaniline produced a 48-hour EC_{50} value greater than 4.4 mg/L (the highest concentration due to solubility limitations). No evidence of acute toxicity was seen at any test concentration.	54 FR 25167; 6/13/89 OTS0519117
2,6-Dichloro-4-nitroaniline	99-30-9	EECLIF Fish early life stage test	Non-TSCA Protocol/Guideline (see docket# OPTS-4453B)	rainbow trout	flow-through, 91 days	0.011-0.19 mg/L	60/ concen-tration	Decreased larval survival was noted at 0.024 mg/L and higher. The NOEC was 0.011 mg/L and the MATC was 0.016 mg/L.	54 FR 30605; 8/31/89, Docket# OPTS-44536

A T T A C H M E N T A

Anilines Currently in Production*

Chemical	Cas No.
Aniline	62-53-3
2-Chloroaniline	95-51-2
3-Chloroaniline	108-42-9
4-Chloroaniline	106-47-8
2,3-Dichloroaniline	608-27-5
2,4-Dichloroaniline	554-00-7
2,5-Dichloroaniline	95-82-9
3,4-Dichloroaniline	95-76-1
2,4,6-Trichloroaniline	634-93-5
2-Nitroaniline	88-74-4
3-Nitroaniline	99-09-2
4-Nitroaniline	100-01-6
2,4-Dinitroaniline	97-02-9
2-Chloro-4-nitroaniline	121-87-9
2-Chloro-5-nitroaniline	6283-25-6
4-Chloro-2-nitroaniline	89-63-4
4-Chloro-3-nitroaniline	635-22-3
2,6-Dichloro-4-nitroaniline	99-30-9
2,6-Dibromo-4-nitroaniline	827-94-1
2-Bromo-4,6-dinitroaniline	1817-73-8

*According to the ANPR.

A T T A C H M E N T B

Anilines Covered by Consent Order[**]

Chemical	Cas No.
Aniline[a,b]	62-53-3
2-Chloroaniline[a,b] (2-CA)	95-51-2
4-Chloroaniline[a] (4-CA)	106-47-8
3,4-Dichloroaniline[a] (3,4-DCA)	95-76-1
2-Nitroaniline[a] (2-NA)	88-74-4
4-Nitroaniline[a] (4-NA)	100-01-6
2,4-Dinitroaniline[a] (2,4-DNA)	97-02-9
2,6-Dichloro-4-nitroaniline[b] (DCNA)	99-30-9

[**]Anilines requiring health effects testing are coded with a superscript “a” and those requiring environmental effects testing are coded with a superscript “b”.

A T T A C H M E N T C

Voluntary Product Stewardship Programs

- On September 29, 1995, members of the Aniline Association, Inc. formally agreed to voluntarily conduct a rat dominant lethal test on aniline.

- This particular test is needed by EPA to complete its ongoing assessment of aniline which was begun following testing which was completed on aniline and 7 chloro-, bromo-, and nitro-anilines under a TSCA §4 Enforceable Consent Agreement (ECA) signed on August 19, 1988 (53 FR 80314).